

REMARKS:

In the foregoing amendments, applicant's specification was amended to refer to the parent application. Claim 1 was amended by replacing the transitional expression "having" with the transitional expression -- consisting of --. Claims 9, 11-13, 15-18 and 22-25 were canceled without prejudice or disclaimer of the subject matter set forth therein. Some of these claims were directed to a non-elected invention. Claims 2-6, 8, 10, 15 and 17 were previously canceled. Accordingly, claims 1, 7, 14 and 19-22 remain in the application for consideration by the examiner.

The foregoing amendments were made to clarify what was already implied in applicant's claims and these amendments are not narrowing amendments and were not made for reasons substantially related to patentability presented. For these reasons and since these amendments place the application in condition for allowance, applicant respectfully requests that the foregoing amendments be entered under the provisions of 37 C.F.R. § 1.116(b) for the purposes of placing the application in condition for allowance or for the purposes of appeal.

Applicant desires to express thanks to Examiner John P. Sheehan for the courtesies extended the undersigned in a personal interview on October 5, 2006. During the interview, the applicant proposed amending claim 22, line 6, by changing "b<30" to -- b<35 --, which amendment would overcome the rejection under 35 U.S.C. §112 set forth in paragraph 4 of the final Office action. Applicant also proposed amending the claims to -- consisting of -- which terminology would overcome the teachings of U.S. patent No. 5,916,376 of Fukuno *et al.* (Fukuno), which requires the presence of an additional element selected from the group of M elements (as defined therein). Applicant also proposed amending the claims to -- consisting

essentially of -- terminology. Examiner Sheehan stated that this latter language may or may not distinguish over the teachings of Fukuno. Applicant indicated that they may present arguments concerning *Titanium Metals v. Banner*, 227 USPQ 733 (Fed. Cir. 1985). Examiner Sheehan stated at applicant would still have to contend with *In re Peterson*, 65 USPQ2d 1379 (Fed. Cir. 2003).

In the foregoing amendments, claims 22-25 were canceled. Accordingly, the rejection of claims 22-25 under 35 U.S.C. §112, first paragraph (which was set forth in paragraph 4 on page 3 of the Official action) is now moot.

Claims 1, 7, 14 and 19-25 (now claims 1, 7, 14 and 19-22) were rejected under 35 U.S.C. §103(b) over the teachings of U.S. patent No. 5,916,376 of Fukuno. Applicant respectfully submits that claims 1, 7, 14 and 19-22 are patently distinguishable from the teachings of Fukuno within the meaning of 35 U.S.C. §1023(b) or 35 U.S.C. §103(a) for at least the following reasons.

In the claim interpretation that appears on page 1 of the Official action, it was stated that previously presented claim 1 was not closed to additional components, and therefore, the previously pending claims did not preclude the presence of Zr as required in Fukuno. This claim interpretation inferred that using the transitional expression "consisting of" would close claim 1 to the presence of additional elements such as the Zr as required in Fukuno. As mentioned above and in the foregoing amendments, claim 1 was amended to include the transitional expression "consisting of." Therefore, present claim 1 is patently distinguishable from the teachings of Fukuno, because present claim 1 does not and cannot include the Zr as required in Fukuno.

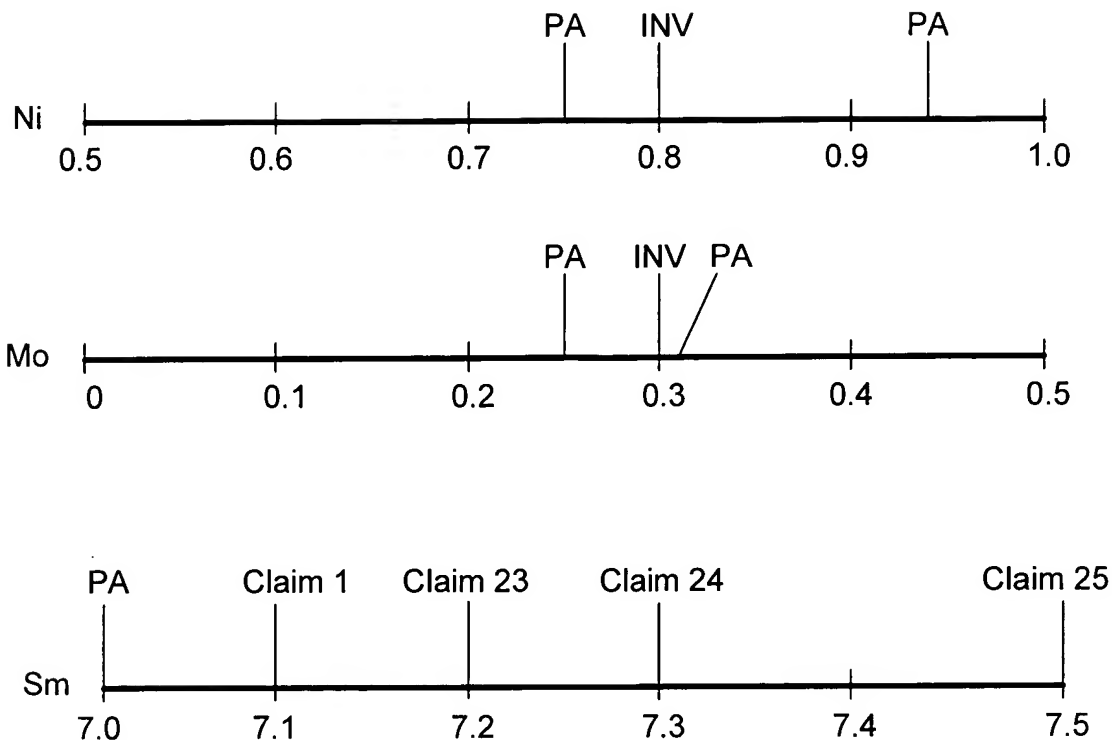
In this connection, it is respectfully noted that during the personal interview with Examiner Sheehan and as stated in the Interview Summary for this interview, it was indicated that amending the claims to -- consisting of -- terminology would overcome Fukuno, which requires the presence of additional element(s) selected from a group of elements defined therein in addition to those defined in applicant's claims. Since claim 1 was so amended in the foregoing amendments, applicant respectfully submits that present claim 1 and claims 7, 14 and 19-21 that depend thereon are patently distinguishable from the teachings of Fukuno. Therefore, a formal allowance of claims 1, 7, 14 and 19-21 is respectfully requested.

While it is believed that claims 1, 7, 14 and 19-22 are in condition for allowance, applicant provides some comments concerning the aforementioned cases of *Peterson* and *Titanium Metals*, which cases were cited in the outstanding Official action. *Peterson* stated that a *prima face* case of obviousness typically exist when the ranges of a claim composition overlap the ranges disclosed in the prior art. In *Peterson*, claim 5 in question defined, *inter alia*, about 1-3% of rehnuim and about 14% of chromium. The prior art teachings of Shah disclosed, *inter alia*, 0-7% of rehnuim and about 3-18 % of chromium. In other words, claim 5 in question defined amounts of rehnuim and chromium completely within the range proposed by the prior art teachings of Shah. Perhaps, the holding in *Peterson* can be summarized as a *prima face* case of obviousness typically exist when the ranges of a claim composition are contained within the ranges disclosed in the prior art. The factual situation for obviousness identified in *Peterson* is different than that set forth in the present claims, where the teachings of Fukuno require Zr and applicant claims exclude Zr. In other words, the overlap for amounts of a particular element, as discussed in *Peterson*, is not present between applicant's claims and the teachings of Fukuno.

Therefore, the holding in *Peterson* does not apply to the present situation, and the presently claimed invention is patently distinguishable from the teachings of Fukuno.

In *Titanium Metals*, claim 3 in question required 0.3% Mo and 0.8% Ni, balance titanium. A Russian prior art disclosed two alloys having 0.25% Mo and 0.75% Ni, and 0.31% Mo and 0.94% Ni, respectively. Thus, the Russian prior art taught alloys having amounts of Mo and Ni above and below that set forth in claim 3 in question. Based on this factual situation, apparently the court concluded that it would have been obvious to optimize an amount of Mo and Ni between the amounts of these ingredients proposed in the Russian prior art.

The factual situation presented in *Titanium Metals* for the Russian prior art and the claimed invention is shown in the first two line graphs below. The first graph represents the nickel (Ni) composition and the second graph represents the molybdenum (Mo), where PA refers to composition points disclosed in the Russian patent and INV refers to the claimed invention composition points. The third line graph below is a comparison of the teachings of Fukuno to the presently claimed invention.



This factual situation concerning the presently claimed invention and the teaching of Example 105 of Fukuno is significantly different from that discussed in *Titanium Metals*. In *Titanium Metals*, the claimed invention composition point of 0.8% Ni is between the prior art composition points of 7.5% and 9.4% Ni, and the claimed invention composition point of 0.3% Mo is between the prior art composition points of 0.25 % and 0.31% Mo. On the other hand, the teachings of Fukuno only propose a single amount of 7.0 at% Sm in Example 105 therein, which is below that required in the present claims. In other words, the amount of 7.0 at% Sm proposed in Example 105 of Fukuno is completely outside the range of 7.1 to 12 at% Sm, which is required in applicant's claim 1. This amount of 7.0 at% Sm proposed in Example 105 of Fukuno is further removed from the amounts of 7.2 to 12 at% Sm, 7.3 to 12 at% and Sm 7.5 to 12 at%

Sm defined in claims 19-21. Since there is no overlap between the amount of 7.0 at% Sm proposed in Example 105 of Fukuno and the amounts of 7.1 to 12 at% Sm, 7.2 to 12 at% Sm, 7.3 to 12 at% and Sm 7.5 to 12 at% Sm defined in the present claims, one of ordinary skill in the art would not be motivated to modify the amount of 7.0 at% Sm proposed in Example 105 of Fukuno to something completely outside the range set forth therein, such as the higher amounts required in the present claims 1 and 19-21.

In other words, applicant's claims 1 and 19-21 require an amount of Sm of at least 7.1 at%, 7.2 at%, 7.3 at% or 7.5 at%. The magnet powder 105 discussed in Fukuno requires, *inter alia*, only 7 at% of Sm. Applicant respectfully submits that since claims 1 and 19-21 and magnet powder 105 of Fukuno require mutually exclusive amounts of Sm, applicant's claims are patently distinguishable from the teachings of Fukuno.


Since magnet powder 105 of Fukuno is a prior art alloy to the teachings of Fukuno as discussed therein, applicant respectfully submits that one of ordinary skill in the art would not be motivated to modify the amount of Sm (equal to 7 at%) in this prior alloy to another higher amount of Sm, such as that set forth in the present claims. For example, it is respectfully noted that magnet powder 105 of Fukuno has a very poor coercive force (HcJ) of 0.8 kOe. One of ordinary skill in the art would not be motivated to use such a material or to modify such as material by increasing the amount of Sm therein, when the other examples in Fukuno have a much higher coercive force of 7-10 kOe. The low coercive force of magnet powder 105 of Fukuno appears to be caused by an extremely large grain diameter of 200 nm. In contrast thereto and in the presently claimed invention, the grain diameters are usually in the range of 20-30 nm and can be up to 100 nm.

At least for the foregoing reasons, applicant respectfully submits that the inventions defined in claims 1, 7, 14 and 19-21 are patently distinguishable from the teachings of Fukuno. Therefore, applicant respectfully requests that the examiner reconsider and withdraw this rejection.

In view of the foregoing amendments and remarks, favorable consideration and a formal allowance of claims 1, 7, 14 and 19-21 are respectfully requested. While it is believed that the present response places the application in condition for allowance, should the examiner have any comments or questions, it is respectfully requested that the undersigned be telephoned at the below listed number to resolved any outstanding issues.

In the event this paper is not timely filed, applicant hereby petitions for an appropriate extension of time. The fee therefor, as well as any other fees which may become due, may be charged to our deposit account No. 50-1147.

Respectfully submitted,
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